

REMARKS

Summary of Status of Claims

By this amendment, Applicant has amended claims 1-4 and 7-10, and added new claims 13-18. Claims 1-18 are currently pending. Of these, claims 1, 7, and 13 are independent.

Applicant has amended claims 1 and 7 in order to correct informalities and to more appropriately define the invention. Support for the amendments to claims 1 and 7 can be found in the specification on page 8, line 8, through page 9, line 20 (see Figures 3 and 4), and on page 19, line 2, through page 21, line 17 (see Figure 8). Support for newly added claims 13-18 can be found in claims 1-6.

Applicant has also amended claims 2-4 and 8-10 in order to correct informalities and further improve form. These amendments do not change the scope of the claims.

In the Office Action, the Examiner rejected claims 1-12 under 35 U.S.C. § 101 as being directed to non-statutory subject matter; rejected claims 1, 4-7, and 10-12 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,847,966 to Uchino et al. ("Uchino"); and objected to claims 2, 3, 8, and 9 for being dependent upon a rejected base claim, but indicated that those claims would be allowable if rewritten in independent form containing all of the limitations of the base claim and any intervening claims and assuming the rejections made under 35 U.S.C. § 101 are resolved. Applicant appreciates the Examiner's indication of allowable subject matter and respectfully traverses the rejections for the following reasons.

Regarding the Rejection Under 35 U.S.C. § 101

According to the Office Action, claims 1-12 lack “patentable utility” because the claimed invention does not produce a “useful, concrete and tangible result.” See Office Action, pages 2-3. The Office Action makes two assertions in support of this ground of rejection. First, it asserts that “[t]he claims are not concrete because the results are not assured. Is a solution possible for any and all arbitrary inputs?” See Office Action, page 4. Second, the Office Action asserts that, “[t]he output of the claimed limitations are not useful since the result does not specify how the calculations are actually used to estimate power consumption and noise levels in integrated circuits.” See Office Action, page 4.

According to the Federal Circuit, the inquiry of whether a claim is statutory focuses on “the essential characteristics of the subject matter, in particular, its practical utility.” *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1375. If a claim includes recitations that produce “a concrete, tangible and useful result,” the claim is not abstract and has practical utility. See *State Street*, 149 F.3d at 1373; *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358. And if the claim is not abstract and has practical utility, it is statutory under 35 U.S.C. § 101.

Claims 1-12 include recitations that produce “a concrete, tangible and useful result” for at least the following reasons. Claim 1 recites, *inter alia*:

“estimating power consumption and noise levels based on at least the n sets of output signal elementary waveforms and occurrence probabilities thereof.”

This step produces useful, concrete, and tangible results. For example, estimating power consumption and noise levels of an integrated circuit facilitates the

design of integrated circuits. Independent claims 7 and 13, although of different scope, are not abstract for at least reasons similar to those above for claim 1.

Moreover, as to the Office Action's first assertion that results are not assured, Applicant believes in good faith that a solution is possible for any and all arbitrary inputs. See M.P.E.P. § 2106, Section II.A ("The applicant is in the best position to explain why an invention is believed useful.").

As to the Office Action's second assertion, Applicant respectfully submits that the recitation, "estimating power consumption and noise levels based on at least the n sets of output signal elementary waveforms and occurrence probabilities thereof," serves to specify how the calculations are actually used to estimate power consumption and noise levels of an integrated circuit.

For each of these reasons, claims 1-12, and newly added claims 13-18, are drawn to useful, concrete, and tangible results, and are therefore not abstract but, rather, statutory under 35 U.S.C. § 101. Accordingly, Applicant requests that the Examiner withdraw the rejection under 35 U.S.C. § 101.

Regarding the Rejection Under 35 U.S.C. § 102(b)

Applicant respectfully traverses the rejection of claims 1, 4-7, and 10-12 under 35 U.S.C. § 102(b) as anticipated by Uchino.

In order to properly establish that Uchino anticipates Applicant's claimed invention under 35 U.S.C. § 102, each and every element of each of the claims in issue must be found, either expressly described or under principles of inherency, in that single reference. Furthermore, "[t]he identical invention must be shown in as complete detail

as is contained in the claim.” See M.P.E.P. § 2131. Here, Uchino does not teach each and every element of the claims, and thus the Examiner’s rejection under 35 U.S.C. § 102(e) is improper.

Claims 1, 7, and 13 recite, *inter alia*:

“calculating a first set of output signal elementary waveforms and occurrence probabilities thereof at the first stage of the logic gates...

estimating power consumption and noise levels based on the n sets of output signal elementary waveforms and occurrence probabilities thereof...”

Uchino, by contrast, is directed to estimating power consumption by calculating probabilities (step 1403, in Figure 14) based on circuit descriptions (step 1405) and input patterns (step 1401)¹. The portions of Uchino cited by the Examiner as disclosing the calculation of waveforms (Figures 12a-13b) relate to “examples of the results of power estimation” and “powers required for partial circuits” according to different embodiments of the invention. See Uchino, column 7, lines 5-13. These examples of results do not constitute “output signal waveforms...at the first stage of the logic gates” nor do they constitute “n sets of output signal elementary waveforms,” as recited in claims 1, 7, and 13.

For the above reasons, Applicant submits that claims 1, 7, and 13 are allowable and respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 102(b).

¹ For clarification, Applicant notes that Figure 14 of Uchino appears to have incorrectly labeled steps 1401, 1403, and 1405 as steps 1041, 1043, and 1045, respectively. See Uchino, column 32, line 62, through column 33, line 23 (referring to the above-referenced steps as 1401, 1403, and 1405, respectively).

Claims 2-6, 8-12, and 14-18 depend from and add additional features to independent claims 1, 7, and 13. Accordingly, these claims are allowable for at least the reasons set forth above.

Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

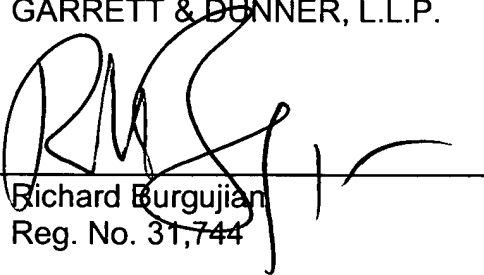
Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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